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Claims

[c1] 1. A method of receiving a packet containing a plurality of data symbols, said method being performed in a receiver connected to a plurality of antennas containing a first antenna and a second antenna, said method comprising:
generating a corresponding plurality of parameters by examining a respective signal portion received on each of said plurality of antennas, wherein said signal portion corresponds to a non-payload portion of said packet, said corresponding plurality of parameters comprising a first plurality of parameters and a second plurality of parameters respectively corresponding to said first antenna and said second antenna;
selecting one of said plurality of antennas based on said corresponding plurality of parameters; and
receiving a payload portion of said packet on said one of said plurality of antennas.

[c2] 2. The method of claim 1, wherein said plurality of parameters comprise a correlation value representing the similarity of said signal portion with a corresponding expected signal according to a pre-defined protocol.

[c3] 3. The method of claim 2, wherein said generating generates a sequence of digital values corresponding to said signal portion, and wherein said corresponding expected signal is represented by a sequence of expected values according to a spread sequence protocol.

[c4] 4. The method of claim 3, wherein said sequence of expected values comprises a spread spectrum sequence.

[c5] 5. The method of claim 4, wherein said spread spectrum sequence comprises a Barker sequence.

[c6] 6. The method of claim 2, wherein said generating comprises determining a gain factor necessary to amplify said signal portion to a first voltage level, wherein each of said plurality of parameters comprises said gain factor.

[c7] 7. The method of claim 6, wherein said plurality of antennas comprise only said first antenna and said second antenna, wherein said gain factor for said first antenna and said second antenna is respectively represented by AGC1 and AGC2 on a dB scale, wherein T1 and T2 represent a first threshold and a second threshold,
if a difference in said AGC1 and said AGC2 values is large compared to T1, selecting the antenna having a lower value of said AGC1 and said AGC2;

if the absolute value of said difference between AGC1 and AGC2 values is small, selecting one of said first antenna and said second antenna having a value close to μ_∞ if the correlation value of the other one of said two antennas is away from μ_∞, wherein μ_∞ represents a mean of Gaussian distribution when SNR of said signal is high;
if said AGC1 and said AGC2 are equal, and if said AGC1 and said AGC2 are high, then selecting one of said first antenna and said second antenna having a correlation value closer to μ_∞; and
if said AGC1 and said AGC2 values are equal, and if said AGC1 and said AGC2 are low, selecting one of said first antenna and said second antenna having a higher correlation value.

[c8] 8. A receiver for receiving a packet containing a plurality of data symbols, said receiver being connected to a plurality of antennas, said receiver comprising:
a parameters generation block generating a corresponding plurality of parameters by examining a respective signal portion received on each of said plurality of antennas, wherein each of said respective signal portion corresponds to a non-payload portion of said packet, said corresponding plurality of parameters comprising a first plurality of parameters and a second plurality of parameters respectively corresponding to said first antenna

and said second antenna; and

a selector block selecting one of said plurality of antennas based on said corresponding plurality of parameters, wherein a payload portion of said packet is received on said one of said plurality of antennas.

[c9] 9. The receiver of claim 8, wherein said plurality of parameters comprise a correlation value representing the similarity of said signal portion with a corresponding expected signal according to a pre-defined protocol.

[c10] 10. The receiver of claim 9, wherein said parameters generation block generates a sequence of digital values corresponding to each of said respective signal portion, and wherein said corresponding expected signal is represented by a sequence of expected values according to a spread sequence protocol.

[c11] 11. The receiver of claim 10, wherein said sequence of expected values comprises a Barker Sequence.

[c12] 12. The receiver of claim 9, wherein said parameters generation block determines a gain factor necessary to amplify said signal portion to a first voltage level, wherein each of said plurality of parameters comprises said gain factor.

[c13] 13. The receiver of claim 12, further comprising a switch

coupled to all of said plurality of antennas, said switch connecting said selected one of said plurality of antennas to an end of a path under the control of said selector block.

[c14] 14. The receiver of claim 13, further comprising:
an amplifiersaid signal portion received by said one of said plurality of antennas to generate an amplified signal;
an analog to digital converter (ADC) sampling said amplified signal to generate a sequence of sampled bits;
a match filter examining said sequence of sampled bits to generate an encoded bit.

[c15] 15. The receiver of claim 14, wherein said first voltage level is determined by a range of operation of said ADC.

[c16] 16. The receiver of claim 14, wherein said amplifier, said ADC and said matching filter are connected in another end of said path.

[c17] 17. The receiver of claim 14, wherein said matching filter comprises a Barker match filter.

[c18] 18. A device receiving a packet containing a plurality of data symbols, said device comprising:
a plurality of antennas containing a first antenna and a second antenna;

a receiver coupled to said plurality of antennas, said receiver comprising:
means for generating a corresponding plurality of parameters by examining a respective signal portion received on each of said plurality of antennas, wherein said signal portion corresponds to a non-payload portion of said packet, said corresponding plurality of parameters comprising a first plurality of parameters and a second plurality of parameters respectively corresponding to said first antenna and said second antenna;
means for selecting one of said plurality of antennas based on said corresponding plurality of parameters; and
means for receiving a payload portion of said packet on said one of said plurality of antennas.

[c19] 19. The device of claim 18, wherein said plurality of parameters comprise a correlation value representing the similarity of said signal portion with a corresponding expected signal according to a pre-defined protocol.

[c20] 20. The device of claim 19, wherein said means for generating generates a sequence of digital values corresponding to said signal portion, and wherein said corresponding expected signal is represented by a sequence of expected values according to a spread sequence protocol.

[c21] 21. The device of claim 20, wherein said sequence of expected values comprises a Barker Sequence.

[c22] 22. The device of claim 19, wherein said plurality of parameters comprise a strength of said signal portion.

[c23] 23. The device of claim 22, wherein said means for generating determines a gain factor necessary to amplify said signal portion to a first voltage level, wherein said strength is determined based on said gain factor.